

## THE NOXIOUS INSECTS OF NORTH CAROLINA.

Corn-eating Insects—Chinche Bug—  
Wire Worm—White Grub—  
Other Insects.

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## [FOURTH PAPER.]

THE CHINCH BUG.—*Blissus leucopertis*.

The most formidable enemy of the grain growers of the great Mississippi Valley is the chinch bug, which in a single year has inflicted upon the farmers of one State—Illinois—a loss of over \$20,000,000. Fortunately for us, this pest is less abundant in this part of the country. It has, however, in bygone years, inflicted severe damage in this State and in Virginia. It is always present, and in very dry years it makes its presence felt. This insect has such a bad name that farmers, when they observe any unknown bug infesting their grain fields, are apt to call it "chinch bug." The true chinch bug is, when fully grown, about one-seventh inch long, black, with white wings. The mature insects are, however, short lived. It is the immature bugs that are more commonly seen and known. The young are much like the old bugs in shape, but are smaller, reddish or brown in color and wingless. The chinch bug may be easily distinguished from all other out-door insects by its very strong and offensive, bed-bug-like odor. The chinch bug passes the winter in the winged state, hidden under piles of trash in the fields or neighboring woods, in the sheaths of stalks left in the field, in straw stacks or corn shocks, and in the cracks and crevices of fences. It is perfectly hardy and no amount of freezing will kill it. It is, however, very susceptible to moisture, and is never troublesome on low land or during wet seasons.

In this latitude the chinch bugs which have lain torpid during the winter, issue from their hiding places in March and soon afterward begin to deposit eggs for the first brood of young insects. The female bug burrows one inch or two into the ground and deposits her eggs upon the roots of growing plants. She always selects wheat where it is found, otherwise she uses oats or grass. Her eggs number about 500 and hatch out in about two weeks. The young bugs as soon as born insert their beaks into the tissue of the roots upon which they find themselves and proceed to pump out the sap. They pump and absorb day and night and grow apace. To accommodate their gluttony their skin bursts, and is cast off to a larger one, four times before the young bugs become full grown—which occurs when they are about six weeks old.

Very soon after reaching maturity the bugs pair and the females lay eggs for the next brood. The second brood of eggs are most frequently laid upon the roots of corn. A third brood of bugs appears in the fall and some of these survive the winter as already described. The disgusting odor of the chinch bug serves as an effective protection. Scarcely any rapacious bug or bird is known to prey upon it. Where it appears in dangerous abundance the farmer must therefore depend upon his own exertions and the help of Providence—but chiefly upon exertion—to save his crop.

## REMEDIES.

The first and most necessary precaution in fighting the chinch bug is clean fields during the winter. All trash in the field, fence rows and ditches, and the fallen leaves, etc., in neighboring woods must be burned after cold weather has set in. Early in spring the farm fences should be carefully examined and the bugs found in cracks and crevices treated to a bath of the dilute kerosene emulsion. Every bug killed now is equal to 200 bugs killed after the eggs have been laid. If in spite of these precautions, or for lack of them, the bugs begin to devastate grain fields, the best remedy is the kerosene emulsion sprayed or sprinkled on them. The chinch bug usually emigrates from field to field on foot and in armies. They may be kept out of a field towards which they are advancing by pouring on the ground in front of them a line of liquid coal tar. The bugs will not pass over the tar so long as it is moist. It will be prudent to dig a number of deep holes near the line of tar on the side towards the bugs. In trying to flank the barrier they will fall into these holes and maybe buried there. Another method is to plow a deep furrow between the field and the bugs, and place dry straw in the bottom. The bugs will soon fill the furrow and the straw may then be fired. This may be repeated as often as necessary. The advancing army may also be crushed by driving over them with a heavy land roller. The driver of the animals attached to the roller will need to have by him a bottle of smelling salts, for the odor from the crushed bugs is overpowering.

WIRE WORMS.—*Elater*, several species. "Wire worms" is the popular name of the larvae of several species of beetles. These beetles in their winged state are known as springing or clicking beetles from their ability to spring into the air when thrown upon their backs. The worms differ much in

color and size, but all are very slender, resembling a piece of wire as their popular name denotes. Wire worms live in the ground and attack seed in the hill or drill. The "poor stand" so often complained of is very often caused by wire worms which eat the vital part of the seed before it has broken ground. As the worms live in the ground for two or three years before transforming to the winged state, a field once infested is difficult to clear of them. Probably the best plan is to sow in the hills or drills pieces of cotton seed cake which have been moistened with a liquid mixture of Paris green or London purple. In England wire worms show themselves to be fond of rape-seed cake than of grain, and probably our pests are equally fond of cotton cake. Wire worms attack potatoes and all other commonly sown crops as well as corn. The winged beetles live in and upon rotten wood, and therefore logs and old rails should not be permitted to lie and rot in the fields.

THE WHITE GRUB.—*Lachnosterna fusca*.

The "white grub" is the larva of the common brown May-beetle or Dor-bug. The beetles are night-flyers and are the large awkward bugs which enter lighted rooms at night and frighten timid people by their loud buzzing and strange antics. In the winged state the insect lives upon trees. They often do severe damage to fruit and shade trees without being suspected because of their work being done at night. During the day they remain quiet upon the limbs of the same trees they feed upon at night. If trees attacked by these beetles are discovered, large numbers of the pests may be killed by jarring them upon sheets spread on the ground under the trees. The best time to do the jarring is early morning. The beetles caught on the sheet may be killed by turning them into buckets half full of water with a film of kerosene on the top. The beetles may also be readily trapped by means of the lantern trap already recommended for night-flying moths. The damage this insect does in the winged state is small compared with its ravages in the larval or "white grub" state. As a grub it lives in the ground three or four years, during which it is a voracious feeder, eating chiefly the roots of grasses and clovers. The grubs are often so abundant under lawns that when the ground is plowed bushels of them may be picked up. Plowing infested ground and hand-picking the grubs is probably the only effectual and immediate remedy for the grubs, but if the beetles are trapped and killed as they easily may, after the grubs in the ground have been transformed into beetles and met a premature end there will be no more grubs. In this case especially preventive is far cheaper than cure.

THE CORN CURCULIO, OR BILL BUG.—*Sphenophorus zeae*.

The corn curculio, snout beetle or bill bug as it is differently called, is rather too plentiful on wet bottom land, and young corn is frequently badly damaged by it. This bug is ash colored, about one-fourth inch long, and has a snout half as long as the body. It bites into the young plant near the ground and deposits its eggs in the place bitten. The maggot when born eats into the pith of the stalk and bores its way up to the tip. The insect passes the winter in the adult or winged state hidden under stones, boards or trash. It is essentially a semi-aquatic pest and is never troublesome on high or dry land. The best remedy is powdered lime wet in spirits of turpentine, to be sprinkled about the young plants, and hand picking of the beetles. They are easily caught as they feign death when disturbed.

PLANT LICE.—*Aphis avenae*.

These are in dry seasons more or less injurious to Indian corn. If very abundant the infested stalks may be sprayed with the kerosene emulsion and will effectually clear off the lice. As a rule, however, the best remedy for lice on field crops is manure. This will stimulate the plants to produce sap enough to feed both the lice and the maturing seeds.

THE BUD OR BOLL WORM.—*Heliothis armigera*.

is one of the most dangerous enemies of the corn plant. This pest has already been treated of under the head of cotton insects.

These papers have shown that the ravages of noxious insects are greater than most people suppose and that in nearly every case prevention is far cheaper and more practicable than cure. But preventive measures to be effectual must be timely and systematic and general. One criminally careless person by neglecting the proper precautions may nullify the efforts of all the progressive farmers in a township. Therefore the preventive measure should be enforced by law, and by legally responsible officers. In a word the legislature should be asked to pass a law requiring every cultivator of ten acres or more of arable land to keep one lantern trap for each ten acres burning for at least two hours daily—8 to 10 p. m.—during the months of May, June, July and August.

The pest officer should also have authority to compel owners or occupiers

to burn or turn under wheat stubbles immediately after harvest, and to compel the burning of all trash piles on farms and in adjoining woodland during the winter. The same officer might also be charged with the duty of seeing that land owners, railroad corporations and others keep their premises clear of noxious weeds, or at least prevent them from maturing seed. The expense of enforcing such a law would be very small; the benefits would be very great.

California has a law of this kind insofar as regards insect pests, and Wisconsin, Illinois, Michigan and probably other States have laws against weed pests.

This is a question that deserves the consideration of the intelligent and progressive farmers of North Carolina and is respectfully recommended for discussion by Alliances, Granges and farmers' clubs.

The next paper will treat of insects injurious to garden crops.

## WE MUST HAVE A CHANGE OF BASE.

## Petitions Will Not Do.

We hope sensible farmers will neither be frightened nor disturbed by the silly howls of partisan papers and politicians. Each side is trying to make it appear that the Farmers' Alliance is a diversion in favor of the other. This is no new cry; it has been raised by the same fellows every time a particle of independence has appeared among the people. No matter what the politicians and political parties have been guilty of, if any respectable number of people have protested against it, this same cry has been raised on both sides, as is raised now. A man of so much as an infant's thought must know that neither is true. It is not the purpose of the Farmers' Alliance to strengthen or weaken any party; it is not its purpose to create a new party, but it does care for the welfare of this country; it cares for the liberty and independence of the people; it cares for the success of agriculture; it cares for the development of the great industrial interests of this great nation; it cares for the rights of honest toil; it cares for equal privileges and simple justice. To an understanding of these and a proper defense of them it proposes to educate the people. To break the powers of conscienceless knaves and plunderers, it proposes to direct its energies. This independence we claim is precisely what the Revolutionary fathers fought for. What matters it whether the tyrant that rules and robs us wears a British crown, or sits upon a throne of party caucus? There never was a more relentless tyrant than caucus, and never a more relentless robber than those who live upon our prejudices. This power, we confess, it is our purpose to break; this robber we propose to convict, and enable the people once more to feel that they are free men and that their right to do as they please extends to their voting as well as to other things. But let it be distinctly understood that we are not trying to build up any party nor to tear down any party.

Brethren, have you forgot what Bob Ingersoll said in his conventional speech in the city of Chicago? It reiterated the sentiment and gave voice to controlling partisan politics when he said:

"The labor to raise raw material is ignorant labor, but the moment the raw material is worked into fabric, fashioned into beautiful shapes, that requires intelligence. Consequently the greater the number of industries we have in the United States the more intelligent our population will be. Ordinary labor is always cheap. Labor commands a price in proportion that the mind is mixt with muscle—in the proportion that thought is mingled with effort."

These assertions were received with loud and boisterous applause by an audience representing an individual wealth of over one thousand million dollars, and it is fair to presume that farmers of this country still hold and will ever retain the distinguished position accorded them by Ingersoll while the bullionists are in power.

You can never, while yours are the only products doomed to pass inspection in the markets of the world, expect to be placed on a mental plane with the man who "fabricates" three-cent hogs into fifteen-cent salt, paint and paper canvas bacon, or "fabricates" the fleecy coat of your flocks 18 cents per pound and returns it beautifully fabricated with the cast-off relics of a departed age, rejuvenated by the shoddy mill and an "intelligent, industrious mind process," peculiarly fitting it to your and your children's backs at the small sum of \$3 per pound! And so you may go on through the whole catalogue of your productions, and will find yourself scooped from one half to three-fourths of the value of every article in most scientific methods, and the more "mind mixt muscle, and thought mingled with effort" on the part of the other fellow the less emoluments will be left to reward your energy and efforts in your struggle for your daily bread, and the more of this kind of mental calibre you submit to the more your social and political grade will be lowered.

Thirty years ago this "beautiful fabricating fashioned shape business" would have been called plain stealing. To day it is enfranchised by corporate law, making it not only respectable, but a certificate of a highly "intelligent citizenship, vested with peculiar rights," one of which is to make of the raw producer a stepping-stone for reaching greater wealth and political influence, giving power to take the unadulterated products at less than cost of production and paying for them with the "fabricated article" as much below standard purity as is price above its value. The meekly submitting to this kind of imposition is not the worst feature. Our combined vote is strong enough to remove all obstacles in the way of giving equal compensation for equal mental and physical exertion. If our organization could take a common ground in which all would find a plain, practical common interest, self evident enough in its nature to bring together and hold our scattered forces, our efforts will all prove failures till we find a rope on which we can all pull. It is sheer folly and a brainless waste of time looking or hoping for any partisan assistance in this matter. A jack-o'-lantern would be a more sensible and safer guide to solid ground than any partisan guide, and so far has proven but a veritable "swamp angel" leading into greater depths of the "slough of despondency," while trying to fascinate us with specious promises of the "grand scope" of political campaigns, inaugurated for the sole purpose of drying the tears of a poverty-stricken people and wiping the sweat from the brow of an overworked producing class. Such promises are but the rehearsing of the old, old story, given our fathers and our grandfathers also before them as the glorious budding of pageant—glittering and brilliant with the fullness of future prosperity and the fruitfulness of a millennium ever coming, but alas! "Still waiting till the clouds pass by" to drop ripe plums into our open mouths like a "heaven-sent manna," as rewards for faithful fidelity in staying by traditional leirs looms that will certainly make us rich—when we get them.

It is the inert imbecility of awaiting this kind of "lightning to strike us" that will prove our greatest danger. Present political economy has too much of the Harrison "dollar a day" wages in it, and the "seed corn veto" principle bed-rocked into it to ever willingly lift a burden from the back of a wealth producer. It has already accomplished its object reducing his productions to the lowest point in which he can maintain an existence by extra diligence that enriches the non-producer, leaving only the stalk-field and straw stack for himself to "winter through on." No, this is not exactly an age of a "Remus and Romulus" motherhood and you are not adopted by the politicians for the purpose of absorbing "pap" anyway; and the longer we stay working in these strictly partisan ranks, fostering party prejudice and the supine indifference of the inherited belief that voting the "party ticket" is a divine "birth-right," and not voting it is the selling for a "mess of pottage," the more occasion are we giving for Ingersoll eulogies on ourselves and our productions.

If we were numerically weak, mentally or physically inferior to the non-producers there would be reason for sympathy and the shedding of tears in our behalf, but we are not. It is from our ranks that the best talent is being constantly recruited, and scarcely can a brick fall from the top-wall to the pavement in a village, country town or city without endangering the head once engaged with "mind and muscle" in directing the plow-share and helping to provide the comforts of a rural home, but which is now an active "intelligence," re-infranchised with "fabricating new methods" for beating the old man and old woman out of the home they have spent a lifetime in acquiring. Is there no way, no common ground and common interest on which we can stand shoulder to shoulder, clearly within the statute of the constitution, demanding and asking by our ballot a recognition of our "just rights"? There certainly is, and we have votes and brains enough to find this way and make it available by mixing more brains and less prejudices in our ballots in the future. If we would use the same practical common sense in looking after our "inherent rights" under the Constitution of this Republic as we do in looking after the quality of our seed-corn, we would see that both alike require a certain amount of attention and care to secure the best result. A better acquaintance with the nature and quality of the germ of the Republic left in our hands by the wise heads and honest hearts that signed the Declaration of Independence, would have led to a supervision on our part, resulting in a natural healthy growth of the commonwealth, making our Republic a success and the "inherent rights" of the people to mean something more than poverty and pauperism. But first principles having been left out, and partisan ballots voted in, the legitimate results are now boldly, brazenly facing us, partly our own work, as a government of strictly class rule, or syndicate, monopoly

and monied aristocracy. What else could we expect from such careless, stupid faith in parties owned, controlled and run in the sole interest of non-producing men, to whom we had given our power of attorney for making laws, controlling the avocation, trade and profession of all classes but their own? Angels might not take advantage of such circumstances but the non-producer is not an angel! And it will be no easy task to get the government out of their hands, they will stick to it like "grim death," and to fail placing it back in the hands of the people, is to end all hope for the wealth producer, and to strike the death knell of the Republic itself. If we ever expect to do anything for ourselves our children or our race other than leaving an inheritance of serfdom, the time has come for laying aside party selfish prejudices and party affiliations for a more thorough and intimate knowledge of the first and greatest duty of the citizens of this Republic. We know that our class and avocation are not represented in the general government, and what is equally evident, it never will be till we make representation the subject of our vote and the one "inherent right" demanding our ballot. It is the only question worthy our attention, as it is the only source through which we can obtain any of the rights of a citizen. All the discriminating, bad, corrupt monopoly law, all the wrongs imposed by any and every legal form, all for which we are now combining in various organizations to resist, is the positive work directly traceable to a fraudulent "bogus representation" palmed off on us by the parties now getting our votes. We will never see a "government of the people, by the people and for the people," while fraudulent partisan sham is filling offices with non-producers, that should be filled by the producing people of our land, who are the only true representative body competent to enact laws under our Constitution.

Our present numeral system as a basis of representation was used when we were all producers. It did its work right while we remained in that condition, but now we have three or four hundred avocations, it only acts for the three or four and leaves the hundreds out. It represents nothing but the debauching of the ballot and the buying of votes, giving certain classes power to take the products of all others without compensation. It sticks to its class, Representation based on its only true logical foundation—avocation—can and will and must necessarily, by its very nature represent all classes of our citizens. Neither can it interfere with the "just rights" of any, as it is common property of the whole people, and in itself the pure, untainted germ of human rights. The inherent representative quality of these rights is all that makes this Republic different from a monarchy. And it is this right of representation that is the common ground and the common interest that should unite all farm and labor organizations, as it is equally vital to all alike to have men of their own classes looking after their own interests and having a voice in the making of laws under which they are to live, representation by the avocation, trade or profession of the people, is a plain practical way out of our difficulties. Is there any other way? You can make this a sure, certain and peaceable way out of our trouble as we have the voting power, and demand these bosses and we will get it by voting for or against, with brains and not with prejudice. The present numeral system is simply taking the first principals of mathematics, the "addition table" as a substitute basis of representation, and by partisan prejudice giving it legal power over "inherent right," by which it can add the dollars of the producer to the dollars of the non-producer, till the sum reaches into billions! And the great problem of how many more millionsaires we can make is now drawing to an end. Just think of what your ballot and this precious "addition table basis" has accomplished inside of twenty years! Six or seven thousand millionaires! The rest of the world could not do that in a hundred years, saying nothing of the paupers we can show. We can go on firing petitions, resolutions and remonstrances into Congress till we are too poor and our credit too doubtful to buy paper on which to write them, and your only answer will be a couple of "tariff speeches," the one for 47 per cent. revenue protection, the other for 43 per cent. revenue without the protection. Take your choice and believe the country saved. It seems a very plain case that the men we have voted into office have "sized us up," and are now running a double track railway to our open pockets, their general storehouse, from which they scarcely find time to take their hand long enough to do us the honor of shaking our hands before they go into their storehouse. How long do you think this state of affairs can exist without bringing a hurricane? Let us use more brains in our ballots and less prejudices, and then I think there will be a change for the better. A change of base is an imperative necessity of our Republic's life.

GEO. E. LEWIS,  
Sec'y Beaufort Co. Alliance.

## TO GROWERS AND SHIPPERS OF PRODUCE THROUGHOUT THE SOUTHERN STATES.

PHILADELPHIA, May 28, '90.  
At a special meeting of the Philadelphia Produce Exchange, held this day, the following was unanimously adopted:

GENTLEMEN:—The Pennsylvania Railroad Company has recently taken a position with regard to shipments of perishable Southern products, which will work serious injury to the interests of Southern shippers and their consignees in this and other Northern markets. Heretofore it has been the custom of this company and of other transportation companies to collect full freight charges only on such consignments as have been received in fit condition, to command at least the cost of carriage from the point of shipment. It all cases where goods have arrived in bad order and obviously in a condition that would necessitate their sale at a loss to the shipper or receiver, they have allowed the consignment to be sold for what it would bring, and have been satisfied with the proceeds in settlement of the cost of transportation. This season the company has declared its intention to collect full freight charges on all consignments, regardless of their condition on arrival in this market, and in the event of the refusal of the consignees to pay such charges, the company has announced its purpose to notify its agents at Southern shipping points to refuse further consignments to the same consignee, except by prepaid freight.

Believing this position to be untenable in law, and realizing that its inevitable effect would be to create a false impression in the minds of Southern shippers, concerning the solvency and commercial standing of the Receiver thus black-listed on the books of the company, as well as calculated to obstruct the free flow of commodities between Southern and Northern markets, and thus to jeopardize the interests of growers and shippers throughout the South, the fruit and vegetable receivers of Philadelphia, who are members of the Produce Exchange, have organized in opposition to this unjust and unwarrantable order of the Pennsylvania Railroad Company. A committee of the principle receivers has waited upon the officials of this company, and by proper representation has endeavored to secure some modification of this policy, but has been answered by a flat refusal on the part of the company to make any change. As a result of this action of the company, the receivers have decided upon a united refusal to comply with the company's order, and by resolution adopted after thorough consideration of the subject, have agreed to use their influence individually and collectively to induce growers and shippers of produce in the Southern States to use the facilities provided by other carrying companies, that are less exacting in their demands and more considerate of the true interests of shippers and their Northern selling agents. The matter has been brought to the attention of the Produce Exchange, and that organization has endorsed the action of the receivers, and adds its recommendation to theirs, that in all cases when it shall be found practicable, shippers will forward their consignments by the Atlantic Coast line, and by the Baltimore and Ohio Railroad, or by the Savannah and Clyde Line steamships, rather than by the route via the Atlantic Coast Despatch Line and the Pennsylvania Railroad Company.

In order to facilitate the marketing of Southern produce with best results to the grower and shipper, it is necessary that the latter shall have reasonable guarantee that his goods will be delivered promptly and in good condition, and when by reason of delays in transit of which the evidence cannot always be obtained, or by the operation of natural causes his consignments reaches its destination in unfit condition to realize the cost of its transportation, it is obviously unjust that the receiver should be compelled to pay the excess cost of freight or penalty of having his individual or firm name and reputation cast under an implied stigma, and his future business handicapped by conditions that do not apply equally and inflexibly to all receivers.

To the end that this injustice may not be successfully perpetrated by the Pennsylvania Railroad Company, the Produce Exchange invites your cooperation in the dissemination of the information contained in this circular, and in furtherance of the objects herein set forth. Members of the Farmers' Alliance and other agricultural organizations and trade papers throughout the South are requested to give these facts as widespread publicity as possible, and in all cases to use their influence to direct shipments of produce over the lines of transportation promising most satisfactory results to the farming interests of the South seeking an outlet for their products in the Philadelphia market.

HOWARD AUSTIN, Sec'y.

A. W. HOLDEN, Pres't.

Cultivate less land if your manure heap is small.